11.0 ANCILLARY SERVICES -

In this section:

11.1 Losses

a) British Columbia Transmission Corporation requires the supply of losses for all energy schedules. These losses may only be imported or supplied from a generator within the Control Area. The BCTC OATT states that loss coverage must be 6.28% of the energy at British Columbia Transmission Corporation's Point of Receipt, which for imports is the border, or 6.70% at the Point of Delivery. As stated in the BCTC OATT, for the interim period until March 1, 2007, Transmission Customers must elect whether they will self-supply losses or have British Columbia Transmission Corporation supply losses for their schedules. Customers who default to BCTC as the loss provider will be charged Loss Compensation according to BCTC Rate Schedule 09.

b) For Transmission Customers who have nominated to self-supply transmission losses, the following conditions apply:

- A customer that elects to self supply losses must provide a valid loss schedule with each of its energy schedules to BCTC as per WECC business practices.

- Definition of the Three Strike Rule - If a customer does not supply a valid loss schedule for any transaction, BCTC will assign a "strike". The customer will receive a "strike" for every transaction that does not have a valid loss schedule. BCTC will validate after the fact if the self supply customer that had energy scheduled on the prior working day, supply their losses accordingly. If a customer incurs a "strike(s)" in a particular working day, there will be a letter and/or email issued by BCTC to notify the customer. If a customer incurs three "strikes" during the interim period, BCTC will immediately default the Loss Supply to be BCTC, and the customer shall be charged the Loss Compensation Rate as per Rate Schedule 09.

c) WECC mandates submission of a **separate** loss eTag for Customers that self- or third-party provide losses unless otherwise required by the Transmission Provider. When a Customer submits a loss eTag from an

external Control Center, the Control Area will be identified as the provider of Ancillary Services in the Generation line.

d) On the other hand, when a Customer submits a loss eTag supplied from within the British Columbia Transmission Corporation Control Area (internal), the PSE in the Generation line is the supplier of Ancillary Services and this is checked by British Columbia Transmission Corporation to ensure that it is a valid provider. If the PSE is not a valid Ancillary Services loss provider, the eTag will be denied.

e) A loss eTag must reference an OASIS number for transmission on an import or an internal path where the POD is BCTC.Network. If a loss eTag references OASIS numbers for transmission on more than one path, it will be denied.

f) The energy scheduled for losses is referred to as a "child" schedule. The primary energy schedule is referred to as a "parent."

g) The parent eTag ID must be referenced on the child eTag as follows: Enter the parent eTag number/ID into the Miscellaneous Information Value field on the Load line of the child eTag. This can be accessed by clicking "No" in the Misc. column of the Load line (the last line) in the physical path section. The complete parent eTag number/ID must be entered in the Value field for successful linkage between the child and parent eTag, which must have a one-to-one relationship.

h) In Real-time, an eTag is considered "late" when it is received after XX:40 of the hour previous to the tag's start time. In Pre-schedule, an eTag is considered "late" when it is received after 16:59:59 PPT, but before checkout is complete. A loss eTag that is received late will be denied and British Columbia Transmission Corporation will default as the loss provider.

i) Customers are not allowed to submit partial losses. They can use the "round up and carry forward" method to create the profile of the loss eTag to deal with loss obligations under 1 MW.

The following example demonstrates how the round up and carry forward method works and provides a brief illustration of how loss eTags will be evaluated.

Example

	HE01 (MW)	HE02 (MW)	HE03 (MW)	HE04 (MW)	HE05 (MW)	TOTAL
eTag	100	100	50	100	100	450
Loss eTag	7 round up (100 x 6.70% = 6.70) CF = -.30	7 round up (100 x 6.70% - 0.30 CF = 6.40) CF = -.60	3 round up (50 x 6.7% - 0.60 CF = 2.75) CF = -.25	7 round up (100 x 6.70% - 0.25 CF = 6.45) CF = -.55	7 round up (100 x 6.7% - 0.55 CF = 6.15)	31

*CF = Carried Forward

The loss eTag in the example would be accepted because:

1. In each hour, the loss coverage is within 1 MW of 6.70% of the parent eTag's profile;

2. The last hour is rounded up to 7 MW because there is no partial losses (HE 05 is 6.15); and

3. The total energy on the loss eTag (31 MW) is not less than 6.70% of the parent eTag (6.70% of 450 MW = 30.15 MW).

Note: When a parent eTag replaces one or more parent eTags, it does not inherit the original child eTag. The Customer must resubmit the child eTag(s) linking it to the new parent(s) in order to preserve the one-to-one relationship.

11.2 Losses for Wheelthroughs

When a Customer submits an eTag, the OASIS reservation identifies the path being used. A Customer with a Wheelthrough transmission reservation must reserve import transmission for its loss schedule and the OASIS number on the eTag must be the import transmission OASIS number. A Customer using an import and export transmission reservation for a wheelthrough transaction may use unused capacity on the import path to schedule losses.

If losses are being provided for a parent Wheelthrough eTag, the losses must use an import or internal transmission path.

Note: British Columbia Transmission Corporation's loss calculator is located at http://www.bctc.com/transmission_scheduling/tariff_pricing/losses.htm .

11.3 Spinning Reserve and Contingency Reserve

The eligibility requirements and terms and conditions for Spinning Reserve and Contingency Reserve are set out in Attachment R of the BCTC OATT.

Per WECC Business Practices, a Transmission Customer wishing to schedule reserves must submit an eTag specifying the correct FIRM OASIS Transmission Assignment Reference Number and energy type.

The Sink Balancing Authority (BA) will contact the BCTC Generation Co-ordinator to advise the activation of reserves and that an eTag adjustment will be submitted shortly. The Load Serving Entity (LSE) will submit an adjustment eTag. Once the adjustment is approved by the Sink and Source BA's, the reserve amount requested is delivered for the duration specified.

11.4 Self Supply of Operating Reserve (SSOR)

Self Supply of Operating Reserve (SSOR) is a special type of Firm transmission used for the real time delivery of Operating Reserves to the Bonneville Power Administration Control Area and, as such, is only available on exports to the US from the British Columbia Transmission Corporation Control Area. SSOR is not available for purchase on OASIS and can only be Redirected from an existing Firm transmission reservation on an hourly basis. It cannot be purchased on a long-term basis.

11.4.1 Redirect SSOR

SSOR can Redirect (change POR and/or POD) subject to Redirect business practices, but only if the path remains an export.

11.4.2 Reassignment of SSOR

SSOR cannot be reassigned as a service.

11.5 Ancillary Services and Transmission Losses Guide

The following table is posted as a **guide** to clarify Ancillary Services procurement for Wholesale Transmission Services on the British Columbia Transmission Corporation transmission system. The table is not intended to replace or supersede the language in the applicable Tariffs.

Ancillary Services and Transmission Losses Required Per Path

Abbreviation & Tariff Number

OASIS Path	SSCD 03	RSVC 04	RFR 05	EI 06	OR 07/08	Losses 09/10
W/BCTC/AESO - BCTC//	✓	✓	✓	✓	✓[1]	✓
W/BCTC/BCTC - AESO//	✓	✓		✓	✓[2]	✓
W/BCTC/BPAT - BCTC//	✓	✓	✓	✓	✓[1]	✓
W/BCTC/BCTC - BPAT//	✓	✓		✓	✓[2]	✓
W/BCTC/BCTC/BCTCSYS – FBCSYS/	✓	✓	✓	✓	✓	✓
W/BCTC/BCTC/FBCSYS – BCTCSYS/	✓	✓	✓	✓	✓	✓
W/BCTC/BPAT - AESO//	✓	✓				✓
W/BCTC/AESO - BPAT//	✓	✓				✓
W/BCTC/BCTC/FBCSYS – FBCSYS/	✓	✓	✓	✓	✓	✓
W/BCTC/AESO - BCTC/AB.BC – FBCSYS/	✓	✓	✓	✓	✓[1]	✓
W/BCTC/BCTC – AESO/FBCSYS – AB.BC	✓	✓		✓	✓[2]	✓
W/BCTC/LM – BPAT//	✓	✓		✓	✓[2]	✓
W/BCTC/BCTC – BCTC//	✓	✓	✓	✓	✓	✓
W/BCTC/NWUSA>FBCSYS/Wheelthrough	✓	✓	✓	✓	✓[1]	✓
W/BCTC/FBCSYS> NWUSA/Wheelthrough	✓	✓		✓	✓[2]	✓

1. Applicable to interruptible energy schedules and not applicable to firm energy schedules.
2. Applicable to firm energy schedules and not applicable to interruptible energy schedules.

The energy delivered on the BPAT – AESO and AESO – BPAT paths is deemed "balanced" and therefore Energy Imbalance is not applied.

11.6 Dynamic Scheduling Spinning Reserve, Dynamic Scheduling Contingency Reserve, and Dynamic Scheduling Regulation Reserve

Dynamic Scheduling Spinning Reserve (DSSpinRes), Dynamic Scheduling Contingency Reserve (DSConRes), and Dynamic Scheduling Regulation Reserve (DSRegRes) are used for the real-time delivery of operating reserves to the Receiving Control Area. As such, it is only available on exports. DSSpinRes, DSConRes, and DSRegRes are not available for purchase on OASIS but can be scheduled using existing Firm transmission. Customers wishing to carry DSSpinRes, DSConRes, and DSRegRes must have sufficient operating reserves of corresponding type available and ready to be delivered in the scheduled period.

The Eligibility Requirements are set out in Attachment O of the Open Access Transmission Tariff.

11.6.1 Scheduling DSSpinRes, DSConRes, and DSRegRes

Dynamic Scheduling Energy consists of Non-Spinning Reserve (NSPIN), Replacement Reserve (REPL), Positive Supplemental/Incremental (INC), Negative Supplemental/Decremental (DEC), Spinning Reserve (SPIN), Regulation Up (REGUP), and Regulation Down (REGDN).

Customers must reserve FIRM transmission for dynamic scheduling purposes only up to the amount of the total capacity awarded by the Receiving Control Area. The FIRM transmission reservation can be used for scheduling any of the following Dynamic Scheduling Energy types.

Energy Type	Dynamic Operating Reserve
NSPIN	DSConRes
REPL	DSConRes
INC	DSConRes
DEC	DSConRes
SPIN	DSSpinRes
REGUP	DSRegRes
REGDN	DSRegRes

The Customer should use the correct FIRM Transmission Assignment Reference Number specified on OASIS in the eTag submitted for Dynamic Scheduling purposes.

The Customer wishing to dynamically schedule must submit an eTag, which will be actively approved by British Columbia Transmission Corporation. The Customer must do the following, which are unique requirements to the Dynamic eTag:

a) Identify the Transaction Type on the new eTag as Dynamic;

b) Enter the acronym for the energy type, from the table above, under the Contract column in the Market Path section of the eTag;

c) Enter the OASIS Assignment Reference Number of the firm transmission reservation under the OASIS column in the Transmission Allocation section of the eTag; and

d) Enter the average expected value under the MW column in the Energy Profile and the maximum expected value under the MW column in the Transmission Profiles of the eTag for all energy types.

e) Blanket and Super Blanket approach as described in section 10.2.2 and 10.2.3 of this Business Practice cannot be used for Dynamic eTags.

No later than XX:05 after each hour, the Customer must fax the British Columbia Transmission Corporation Real-time Office with a spreadsheet that shows the breakdown value of each energy product for all past hours of that day. At 00:05, the Customer must provide the hourly breakdown value of each energy product for the entire previous day. Alternative methods of transferring the above data may be arranged if acceptable to both British Columbia Transmission Corporation and the Customer.

The hourly breakdown values should add up to the total Dynamic Scheduling Energy that British Columbia Transmission Corporation has delivered in each corresponding hour. The total Dynamic Scheduling Energy is deemed as official for Control Area to Control Area check-out purposes. Any adjustment to the hourly breakdown values required to match British Columbia Transmission Corporation's total Dynamic Scheduling energy shall be the Customer's responsibility and should be resolved with the Receiving Control Area prior to sending to British Columbia Transmission Corporation for settlement purposes.

Document Change History

Issue	Reason for Issue	Date
1	Revised Dynamic Scheduling, Section 11.6	December 12, 2006
2	Corrected Losses, Section 11.1 (i) Revised Spinning & Contingency Reserve, Section 11.3 Updated Contact information for Real Time Office, Section 11.6	February 11, 2009
3	Updated Losses Example, Section 11.1 (i)	Oct 6, 2009
4	Updated template.	July 2, 2010

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